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What is a CONSERVATION RANCH PLAN?

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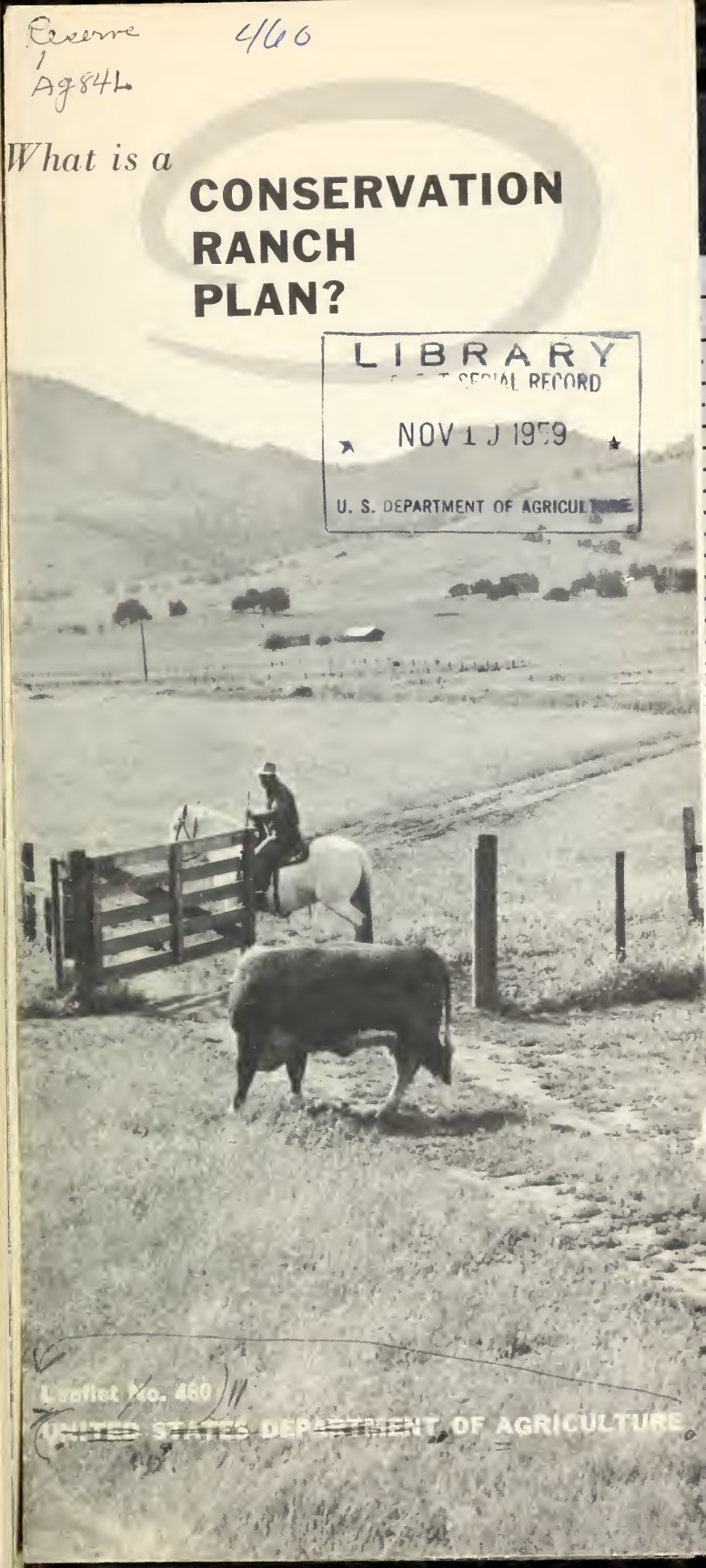

Leaflet No. 460

UNITED STATES DEPARTMENT OF AGRICULTURE

What is a CONSERVATION RANCH

By Soil Conservation Service

If you are a rancher, you probably have some land suitable only for range, tame pasture, or meadow. Some may be suitable for woodland. And on some you may be able to grow cultivated crops safely. You ranch differently from anyone else—because of the differences in your land and in your vegetation and because your ranching needs are different from those of other people.

In one thing, however, you are probably like all other ranchers—you are continually making plans for your ranch. When planning your operations to make better use of the soil, water, and plants on your ranch, you are making a conservation ranch plan.

To make such a plan, you need facts about the soil, water, and plants on your ranch. With this information, you can decide how to manage these resources according to their need for protection and improvement and how best to use your land within its capability. You may have some fertile bottom land soil while other parts of your ranch may be less fertile, steep, or rocky. Some parts may be wet and others well drained; your soils may vary from clay to sand. You are likely to have several range sites on your ranch, each one capable of producing different kinds or amounts of native forage. And range production may vary from low to high.

The Soil Conservation Service technician in your local soil conservation district will give technical help in providing these facts. This district, one of nearly 3,000 in the Nation, was organized under the laws of your State to help land operators carry out conservation plans on their farms and ranches.

If you want this technical help from your district, you should ask for an application for assistance, or see a member of your district governing body. When your application is approved, the district governing body will ask the Soil Conservation Service technician to assist you in developing your conservation ranch plan.

He will have a map of your ranch (made on an aerial photograph) that shows the soil type, slope, and erosion. It will also show which areas are suited for cultivation. While you and the technician are developing your conservation ranch plan, you will add the boundaries of the range sites and the range-condition classes to a second aerial-photo map of your ranch. When completed, these maps will show what land you can best use for range, tame pasture, cropland, meadow, woodland, wildlife, or combinations of these.

PLAN?

As the two of you go over your ranch, you consider the soil, the water resources, and the vegetation you have on each pasture or field. You decide on any changes you want to make in the kind and size of your ranching enterprise and the feed crops you need to grow for the livestock you want to keep. You decide which fields to use for crops and where tame pastures, meadows, and holding lots are to be.

You may wish to change some fence boundaries to make cropping or livestock-grazing management easier. You may decide to plant perennial grass on land you are now cultivating that the land-capability map shows is not suited to crops. If you need cropland, you may want to plow up some range land or clear some woods on land that it is safe to cultivate.

As you proceed, you should estimate as closely as possible the expected returns from the ranch after the conservation plan is put into effect. Your conservation ranch plan should give reasonable assurance that your soil and plant resources are being improved and maintained, that your crop and livestock production are sustained or increased, and that your ranch will continue to be a stable provider. With this assurance, operations can be aimed at the greatest annual earnings.

When you have decided what all of your land is to be used for, you and the technician discuss the conservation practices needed for your range and cropland. Your livestock will need adequate grazing and forage each day of the year, hence you will want to determine how much range forage is available; evaluate your tame-pasture resources and feed supplies; and determine the kind, class, and number of livestock you can graze and feed. With such facts at hand, you can better organize your grazing management plans for each season of the year and work out necessary livestock breeding, management, and marketing programs.

Once you know what you want to do, you can decide when and how to do it. If you need to plant grass on your fields, meadows, and waterways, decide what kind of grass to plant and when to plant it. Figure out the best season to graze ranges and tame pastures and when to use feed crops and supplemental feed. Decide whether you need ponds, diversions, and other water-conservation structures and plan on the best methods and time to build them. You will also decide which areas will benefit from water spreading, pitting, or brush control.

Example of
A CONSERVATION RANCH PLAN and Related Maps

The ranch shown in the example here is a 2,235-acre ranch in western United States. Presented here are the soil map and conservation-ranch-plan map discussed on the other side of this folder. Also included is an explanation of the range sites and the land capability on this ranch.

LEGEND

Range site	Map symbol	Kind of soil	Land-capability class
Valley land	4A1	Catalpa clay, nearly level	I
	20A1	Denton clay loam, nearly level	
Deep upland	2B1	San Saba clay, gently sloping, slightly eroded	II
	2B2	San Saba clay, gently sloping, moderately eroded	
	20B1	Denton clay loam, gently sloping, slightly eroded	
	2C1	San Saba clay, sloping, slightly eroded	III
	20C1	Denton clay loam, sloping, slightly eroded	
Shallow upland	18B1	Denton clay, shallow, gently sloping, slightly eroded	IV
	18C1	Denton clay, shallow, sloping, slightly eroded	
	18C2	Denton clay, shallow, sloping, moderately eroded	
	18D1	Denton clay, shallow, strongly sloping, slightly eroded	VI
	18E1	Denton clay, shallow, moderately steep, slightly eroded	
Very shallow upland	24B1	Brackett gravelly clay, gently sloping, slightly eroded	VII
	24C1	Brackett gravelly clay, sloping, slightly eroded	
	24D1	Brackett gravelly clay, strongly sloping, slightly eroded	

SOIL MAP

Soil type--
See upper left corner.

Slope--
A—Nearly level, 0 to 1 percent.
B—Gently sloping, 1 to 3 percent.
C—Sloping, 3 to 5 percent.
D—Strongly sloping, 5 to 8 percent.
E—Moderately steep, 8 to 12 percent.

Erosion--
1—Slight erosion.
2—Moderate erosion.

RANGE SITES ON THIS RANCH
(Soils are listed in the legend for soil map)

Valley range site is the most productive range site on the ranch. Soils are deep, fine-textured, and nearly level to gently sloping. They are subject to overflow now and then.

Deep upland range site is productive and well drained. Soils are fine-textured, generally more than 20 inches deep, and gently sloping to steep.

Shallow upland range site is moderately productive; soils are shallow, fine-textured, droughty, and undulating to steep.

Very shallow upland range site, occupying ridge tops and steep slopes, is the least productive on the ranch. It consists of very thin clayey soils over marl and limestone bedrock.

LAND CAPABILITY ON THIS RANCH
(See legend on soil map for soil names)

Class I is very good land from all points of view. It is nearly level and does not wash or blow readily. The soil is deep and easy to work. It holds water well and is at least fairly well supplied with plant food. The rancher can use it safely in most any way he chooses, such as for cash or feed crops, grassland, or wildlife land. It needs only good soil-management practices to keep it productive.

Class II land has a slight erosion hazard and requires some conservation treatment if cultivated. These practices usually are easy to apply and keep up. It can be used for cultivated crops, grassland, and wildlife.

Class III land has more serious or more numerous limitations than Class II land. These limitations may be natural ones—such as moderate slope or shallow soil. Or the limitation may be erosion brought on by the way the land has been used. Thus the use of Class III land is more restricted than that of Class II, and if it is cultivated it needs more conservation treatment.

Class IV land has serious restrictions that limit the plants it can grow or that call for very careful management if it is plowed. Also, the number of years favorable for cultivated crops are apt to be few.

Class VI land has severe limitations—shallow soil or steep slopes—that make it better suited to range than to cropland. It is moderately productive for range if proper grazing management is followed. Reseeding if needed and pitting and water spreading can improve pastures and ranges on Class VI land.

Class VII land has very shallow, gravelly, or droughty soils. They are the least productive soils on the ranch. It is impractical to try to improve this range by reseeding, pitting, and water spreading because the soils are too shallow. However, range condition on this kind of land can be improved through proper grazing use.

Example of
A CONSERVATION RANCH PL

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LEGEND

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	18C1	Denton clay, shallow, sloping, slightly eroded	
	18C2	Denton clay, shallow, sloping, moderately eroded	
	18D1	Denton clay, shallow, strongly sloping, slightly eroded	VI
	18E1	Denton clay, shallow, moderately steep, slightly eroded	
Very shallow upland	24B1	Brackett gravelly clay, gently sloping, slightly eroded	VII
	24C1	Brackett gravelly clay, sloping, slightly eroded	

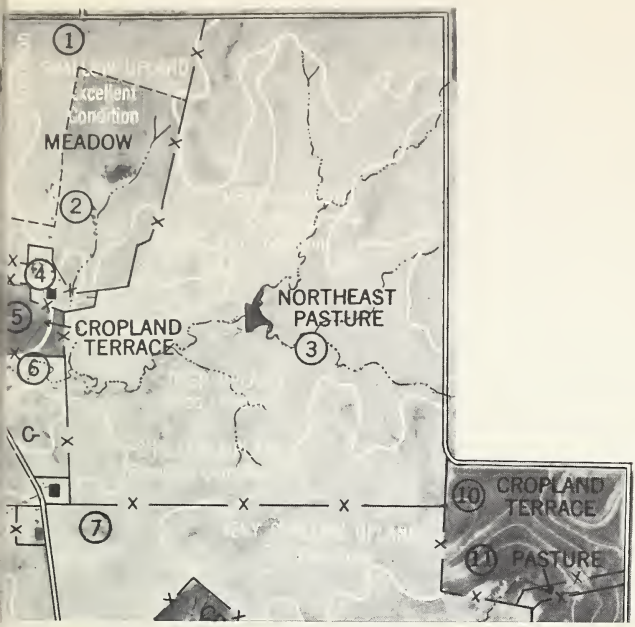
If you have cropland, you select the fields to cultivate. You determine whether any fields need to be irrigated or drained; terraced, stripcropped, or contour cultivated; and where to build ponds and plant grass in waterways. You may want to give special attention to wildlife areas, such as marshes.

Figure out what all these things will cost and what you will get out of them. The technician can give you many good suggestions, but you must make the final decisions.

After you have decided what you want to do and when you want to do it, the technician will put your plan in writing. Part of the plan will be a conservation-ranch-plan map. The planned practices may be shown on the map or written out. With the conservationist, you go over the plan and make any needed changes or corrections.

When you have made the necessary decisions, you will have a conservation ranch plan that if followed will—

1. Keep your land in a use that will conserve its soil and water.
2. Improve eroded and wornout soils and increase their productivity.
3. Improve the condition of your vegetation.
4. Provide for the proper application of water on the land you irrigate.
5. Increase the yield of all the products from your land—livestock, cultivated crops, hay, woodland, and wildlife.



Class I to Class VIII, choices in use become fewer and limitations in use and risks of erosion if mismanaged become greater.

Your local soil conservation district will have information on practices and measures best suited to your particular soil and climate.

Few ranches have all eight classes of land. The one shown in this folder, for example, has no Class V or VIII land.

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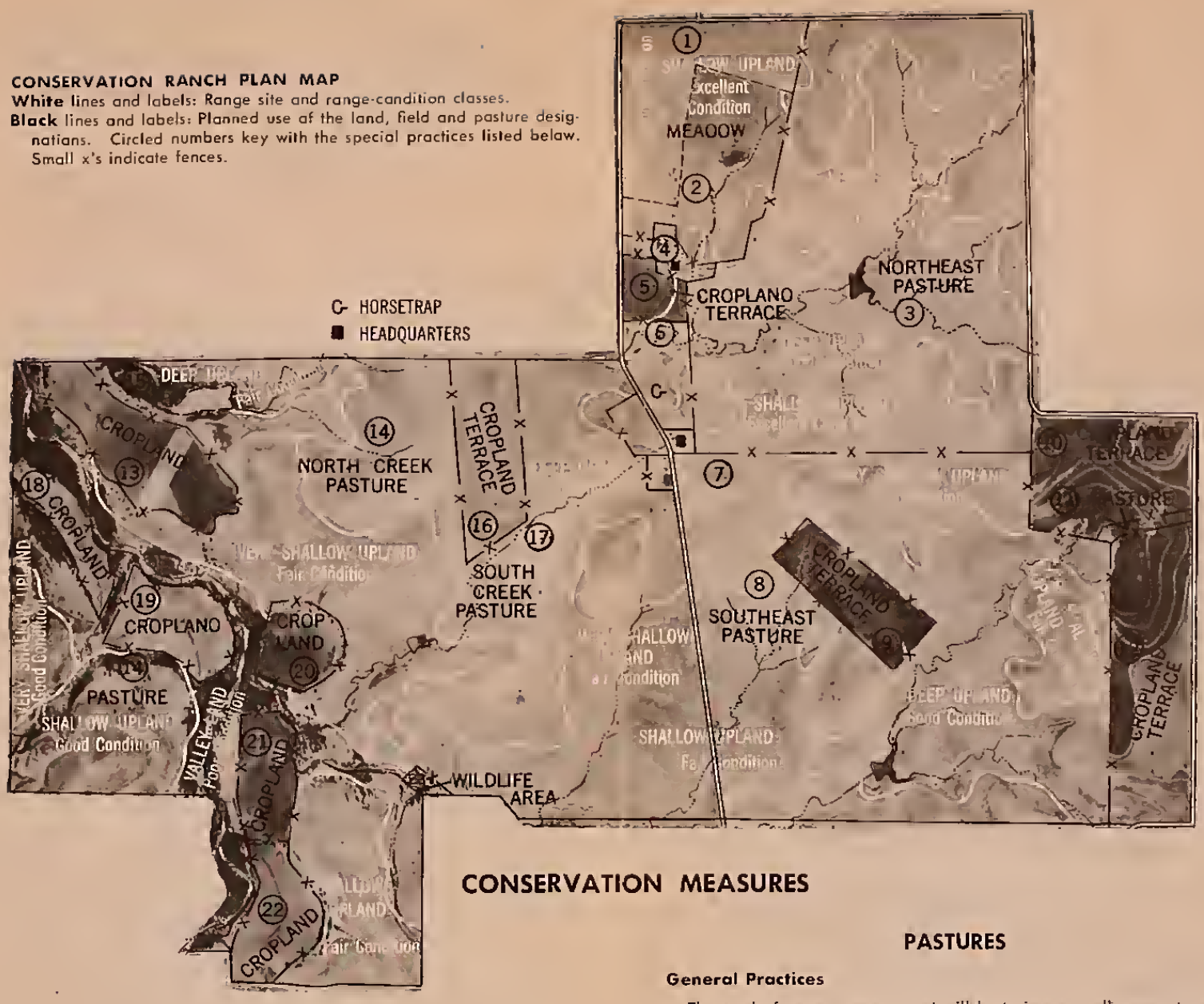
CONSERVATION RANCH PLAN MAP

White lines and labels: Range site and range-condition classes.

Black lines and labels: Planned use of the land, field and pasture designations. Circled numbers key with the special practices listed below. Small x's indicate fences.



CONSERVATION MEASURES

CULTIVATED FIELDS

General Practices

Weeds in tame pastures will be mowed high to avoid cutting grass needed for grazing.

Fire lanes will be maintained along public roads and other hazard areas.

One hundred to two hundred pounds of phosphate per acre will be applied each year to sweetclover fields.

Terraced fields will be cultivated on the contour.

Grain fields will not be grazed after March 15.

Special Practices for each field follow:
The field numbers are the same as the numbers in circles on the map above.

Field 1, 65 acres

Native hay meadow will be protected from fire and grazing.

Stubble of 4 to 6 inches wil be left when mowed.

Field 2, 58 acres

Hay meadow will be seeded to native bluestem mixture.

Field 4, 8 acres **Field 7,** 4 acres

Headquarters (black on the map).

Field 5, 12 acres

Hubam sweetclover for temporary pasture. Will be terraced; excess water to empty on Northeast Pasture.

Field 6, 30 acres

Horse trap.

Field 9, 30 acres **Field 16,** 40 acres

Three-year crop rotation; Hubam sweetclover for seed, oats-Hubam sweetclover and cane for hay.

Will be terraced; excess water from Field 9 to empty on Southeast Pasture and that from Field 16 on North Creek Pasture.

Field 10, 50 acres **Field 19,** 26 acres

Field 12, 80 acres **Field 20,** 15 acres

Field 13, 50 acres **Field 21,** 20 acres

Field 18, 18 acres **Field 22,** 27 acres

These 286 acres will be used in a 4-year crop rotation of oats, wheat, and corn. Oats and wheat will be overseeded with Hubam sweetclover.

Fields 10 and 12 will be terraced after pasture outlet strip (Field 11) is established. Outlet strip (170 rods) will be fenced.

Field 23, 6 acres

Wildlife area—Eroding gully will be fenced, planted to KR bluestem, and kept as a wildlife area.

PASTURES

General Practices

The goal of range management will be to improve all ranges to good or excellent condition.

The goal on each range site will be to increase the key forage plants as follows:

Valley range site—
1. Big bluestem
2. Indiangrass
3. Switchgrass
4. Little bluestem

Deep upland range site—
1. Little bluestem
2. Indiangrass
3. Big bluestem
4. Sideoats grama

Shallow upland range site—
1. Little bluestem
2. Sideoats grama
3. Hairy grama

Very shallow upland range site—
1. Little bluestem
2. Sideoats grama

About 1,500 pounds of hay will be fed per animal-unit during cold weather and during early spring calving.

Salt will be fed all year. During February and March a salt and cottonseed mixture will be fed on the range in portable boxes or feed bunks, moved to undergrazed areas to help distribute the grazing.

Fall-planted small grain will be lightly grazed in winter along with native range. Grain fields will not be grazed after March 15.

Livestock will be moved between pastures to improve the grass.

The proportion of the year's growth left and the condition of the range, whether it is going up or down, will be used to determine the number of animals grazed. Animals will be moved before half of the grass is taken.

Special practices for each pasture follow. The numbers after the pasture names are the same as the circled numbers on the map above.

Northeast pasture (3), 445 acres
Southeast pasture (8), 442 acres

Dams and spillways of the two stockwater ponds will be repaired, sodded, and fenced.

Tame pasture (11), 7 acres

Terrace outlet will be constructed. Field will be planted to bermudagrass and fenced.

North Creek pasture (14), 453 acres

Sixty-five acres of bottom land will be cleared of trees and undesirable brush and seeded to bermudagrass, burclover, and rescuegrass.

Dam and pond spillway will be seeded and fenced and the pond stocked with fish.

Two hundred rods of fence will be built between pastures 14 and 17, 110 rods around Field 19, 100 rods on side of Field 13, and 50 rods around stock pond. Pasture will be grazed only in winter until new seedings in the bottom land and in Field 15 are established.

Field 15, 8 acres

Area will be seeded to native bluestem mixture for grazing.

South Creek pasture (17), 420 acres

Eroding gully (Field 23) will be fenced to protect from grazing and then planted to KR bluestem for use by wildlife.

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